



The published Airport Reference Point (ARP) is utilized for obstruction evaluations of any proposed project in proximity to Miramar flight operations.



Height restrictions are necessary to ensure that no object will interfere with the safe operations of aircraft transiting the MCAS Miramar operating environment. This obstruction-free zone is needed for all runway surfaces and under all weather conditions. The horizontal planes and transitional surfaces for MCAS Miramar are depicted on Figure 5-1. These surfaces, in addition to published instrument departures for Miramar, are utilized to ensure that proposed site development in proximity to these critical operating areas will not be obstructed in any way, or that penetration of these transitional surfaces will not be affected to meet mission essential training and readiness requirements. The published Airport Reference Point (**ARP**) is utilized for obstruction evaluations of any proposed project in proximity to Miramar flight operations. Any proposed land use which exceeds 200 feet Above Ground Level (**AGL**) or penetrates the 100:1 slope extending 20,000 feet from the nearest point of the closest runway must be submitted to both the FAA and MCAS Miramar for further review. Both agencies will advise the local land use authority regarding safety impacts to insure safety of flight for Miramar operations.

5.1 HORIZONTAL /TRANSITIONAL SURFACES

The imaginary surfaces affecting Miramar's runways are described below:

- **Primary Surface** – A surface on the ground centered lengthwise on the runway and extending 200 feet beyond the runway thresholds. The primary surface for each runway is 1,500 feet wide.
- **Clear Zone Surface** – The area at runways end, beginning at the same width as the primary surface flaring to seven degrees 58'-11" to a width of 2,284 feet and 3,000 feet long. The clear zone surface requires significant limitations to accommodate requirements for aircraft over-run areas and unrestricted visibility of airfield lighting. Clear zones are maintained as open, graded and free of above ground objects with the exception of navigational aids.
- **Inner Horizontal Surface** – Oval-shaped planed surface 150 feet above the established airfield elevation, extending 7,500 feet from the runway end and centerlines.
- **Conical Surface** – Surface extending 7,000 feet from the periphery of the inner horizontal surface extending at a slope of 20:1 to a height of 500 feet above the established airfield elevation.
- **Outer Horizontal Surface** – Level imaginary plan located 500 feet above airfield elevation, extending 30,000 feet from the conical surface.

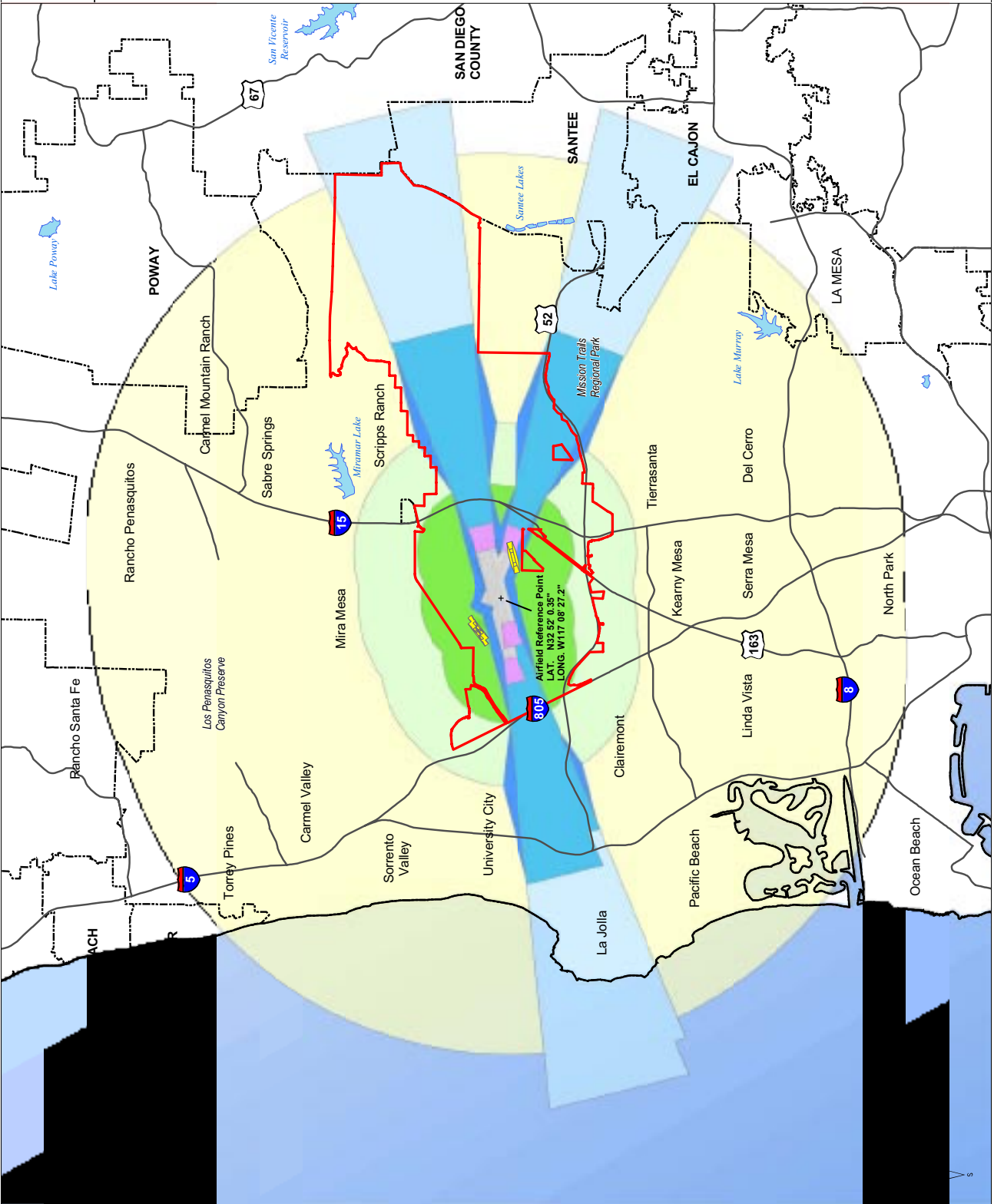


Figure 5-1
MCAS Miramar Imaginary Surfaces

- MCAS Miramar Boundary
- Primary Surface (478 Elev)
- Clear Zone Surface
- Approach-Departure Clearance Surface (Glide Angle = 50:1)
- Approach-Departure Clearance Surface (Horizontal)
- Inner Horizontal Surface (150 feet above airfield elevation)
- Conical Surface (20:1)
- Outer Horizontal Surface (500 feet above airfield elevation)
- Transitional Surface (7:1)
- Helicopter Imaginary Surfaces (All contained on station)

Source: KTU-A, 1999. Based on criteria from NAVFAC P-80.3.





- **Transitional Surface** – Inclined plane that connects the primary surface and the approach/departure clearance surfaces to the inner horizontal, conical and outer horizontal surface areas. The 7:1 slope extends at right angles to the runway and extended centerlines.

All surfaces are consistent with DoN policy guidelines and directives.

5.2 AIRSPACE

In 1981, the Federal Aviation Administration (**FAA**) established a Terminal Control Area (**TCA**) in the San Diego region to enhance safety of flight. All aircraft operating within the boundaries of the TCA are now under positive radar control as Class B Airspace. A three-dimensional map is shown on Figure 5-2. This map represents existing airspace that provides for the safe vertical and horizontal separation of aircraft transiting to and from MCAS Miramar. The Class B Airspace provides for VFR flight corridors, including altitude ranges, at which rotary-wing aircraft can transit to ranges and operating areas in the region.

5.3 COMPATIBLE DEVELOPMENT CRITERIA

The following are parameters for determining nonconforming land uses and developments with MCAS Miramar's operations:

- Objects penetrating the 100:1 surface that are not noticed to the FAA, Airport Land Use Commission (**ALUC**), or MCAS Miramar for analysis.
- Objects determined to be an obstruction or hazard by Federal Aviation Regulations, Part 77 or Department of Transportation/FAA Terminal Instrument Procedures, Chapter 12 criteria.
- Objects that would require a permanent change to MCAS Miramar flight operations, approach minimums or arrival/departure routes.
- Uses which release into the air any substance that would impair visibility or otherwise interfere with the operation of aircraft such as dust, smoke or steam.
- Uses that emit or reflect light which would interfere with aircrew vision.
- Uses which produce emissions that would interfere with aircraft communication, navigation or electrical systems.
- Uses which would attract birds or waterfowl and the growing of certain types of vegetation.

Figure 5-2: Regional Airspace

